# Organoleptic Evaluation of Crude Drugs

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- Evaluation of drugs deals with the correct identification of the plant and determination of quality and purity of the crude drugs.
- The high quality of the drug is maintained by collection of the drug from the correct natural source at proper time, preparation of samples of the collected drugs by proper cleaning, drying and proper preservation.
- The evaluation is done by studying its organoleptic, microscopic, biological, chemical and physical properties.

# METHODS OF DRUG EVALUATION

The evaluation of a drug is drug done by studying its various properties.

The various properties are:

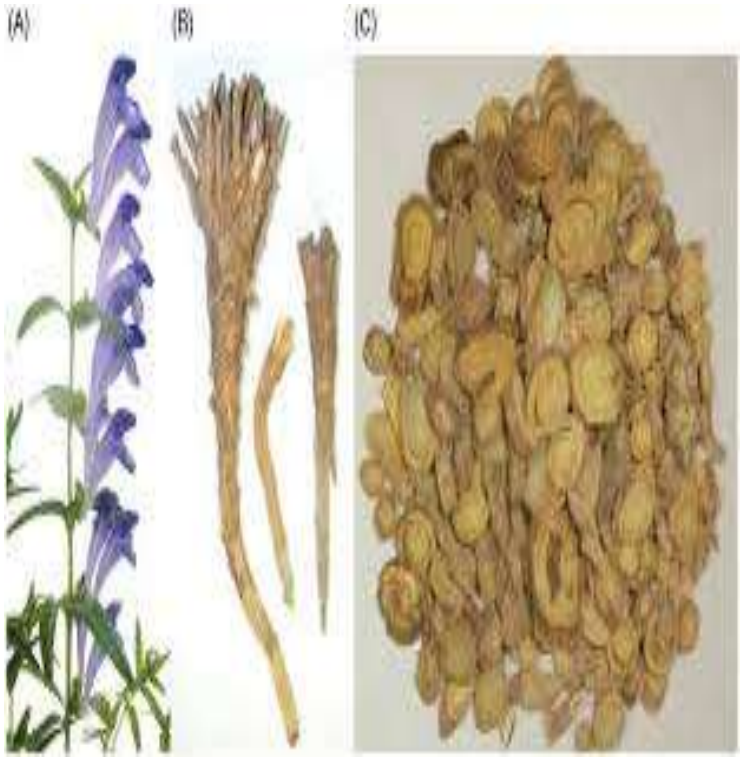
(1) Organoleptic evaluation
(2) Microscopic evaluation
(3) Physical evaluation
(4) Chemical evaluation
(5) Analytical evaluation
(6) Biological evaluation

# EVALUATION OF CRUDE DRUGS

# Definition of crude drug

- Crude drugs may be defined as any natural product that has not been advanced in value or improved in condition by any process or treatment beyond that which is essential for its proper packing and prevention from deterioration.

# Crude Drugs



# Evaluation of Crude Drugs

Evaluation refers to the Standardisation of crude drugs

It includes

- Identity of the crude drug and determination of its
- Quality and
- Purity

Identity of the drug is confirmed by

- Comparing the sample with an authentic sample

or

- Comparing with the Official Literature available

# Organoleptic Evaluation

- It means the study of  a drug with the help of organs of sense which includes its external morphology, colour, taste, sound of its fracture.
- Morphological characters- to study morphology of a drug, its shape, size, colour, external markings, fracture, internal colour, odour and taste are examined.

# FRACTURE

There are three types of fracture.

- ***Complete fracture*** :

  the drug breaks completely when pressure is applied.

- ***Incomplete fracture***:

  the drug does not break completely when fracture is applied.

- ***Short fracture***:

  the drug breaks with a snap sound when pressure is applied.

The organized drugs are classified into

- Barks- Cinnamon, Cinchona
- Underground structures- Ginger, Dioscorea, Liquorice.
- Leaves- Tulsi, Vasaka, Digitalis
- Flowers- Saffron
- Fruits- Cardamom, Almond, Amla
- Seeds- Linseed, Nux-vomica
- Herbs-Brahmi, Kalmegh

Shape of the drug

- Cylindrical(Sarsaparilla)
- Subcylindrical(Podophyllum)
- Conical(Aconite)
- Fusiform, ovoid or pyriform(Jalap)
- Terete or disk shaped(Nux vomica)
- The drug may be simple, branched, curved or twisted. The length, breadth and diameter are measured in mm or cm

# SHAPE AND SIZE OF CRUDE DRUGS

- Crude drugs can be of different shapes etc.
- Cylindrical (Sarsaparilla)

- Sub cylindrical (Podophyllum

- Pyriform (Jalap)

- Terrete (Orchid)

- Disc shape (Calumba)

# External markings

- Furrows, Ridges
- Wrinkles
- Annulations
- Fissures
- Nodules
- Projections
- Scars of leaf, stem base, root, bud, bud scale
- Fractures may be complete, incomplete, short, fibrous, splintery(breaking irregularly), brittle, tough and weak.
- Glycyrrhiza has hard and fibrous structure due to presence of fibrous and woody tissues. Aconite has a horny fracture due to geltainzation of starch.

Sensory characters(Colour, texture,odour and taste)

- This method is esp. applicable to drugs containing volatile oils or pungent principles(e.g. Capsicum)
- The external color varies from white to yellowish gey, brown, orange, or brownish black. The color of some drugs changes if they are dried in sunlight.
- Colour of drugs are standardized and determined by the Inter-Society Colour Concil National Bureau of Standard Method. E.g. Reserpine is described as white or pale buff to slightly yellowish, odourless crystalline powder.

- The odour of a drug may either be distinct(Mentha, clove) or indistinct.
- Terms used to define odour are aromatic, balsamic, spicy, alliaceous( garlic like), camphoraceous, terebinthinate (turpentine like)
- Ergot has rancid( ammonical) smell.

- Taste is a particular sensation production by certain substances when these come into contact with taste buds present in epithelial layer of the mouth.
- The taste may be sour(acidic), salty(saline), sweet(saccharine), bitter, alkaline and metallic.
- Drugs like Ginger, Capsicum have pungent taste, Chiraita and Kalmegh have bitter taste, Glycyrrhiza and Honey are sweet in taste.
- The taste produced by tongue are classified as mucilaginous, oily, astringent( contraction of the tissues if mouth), pungent(warm biting sensation), acrid(unpleasant, irritating sensation) and nauseous(causing vomiting).


W CHART ON STANDARDIZATION AND EVALUATION OF HERB

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